

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 2, 4, 5, 6, 10, 11, 16, 17, and 21 and ADD new claim 22 in accordance with the following:

1. (PREVIOUSLY PRESENTED) The communicating system according to claim 2, further comprising:

a buffer buffering data transmitted from the server to the client and accelerating data output from the server so as to increase a throughput assigned to a connection to the client by the server.

2. (CURRENTLY AMENDED) A communicating system for relaying a communication between a server and a client, comprising:

a first receiving module capable of receiving data from a network, the data obtained by:

converting a first protocol at an application layer level, for data transmitted from the client to the server, into a second protocol at the application layer level, the second protocol allowing an increase of a size of a data transfer window for a transport layer protocol so that a larger amount of data can be transferred at one time than with a data transfer window whose size is not increased, and by

multiplexing data of multiple connections so that a connection with an increased window size in the transport layer protocol level can be used continuously and the larger amount of data is transmitted to the network by continuously using the second protocol;

a demultiplexing module capable of demultiplexing the received data;

a first converting module capable of converting a protocol of the demultiplexed data into the first protocol;

a first transmitting module capable of transmitting the data converted by said first converting device to the server;

a second receiving module capable of receiving data transmitted from the server to the client;

a second converting module capable of converting the first protocol of the data received

by the second receiving module into the second protocol;

a multiplexing module capable of multiplexing data of multiple connections converted by said second converting device so that a connection using the increased window size in the transport layer protocol level can be used continuously and the larger amount of data can be transmitted; and

a second transmitting module capable of transmitting the data multiplexed by said multiplexing module to the network,

wherein a throughput of data of the client is changed corresponding to a priority of the client relative to that of another client.

3. (CANCELLED)

4. (CURRENTLY AMENDED) The communicating system as set forth in claim 2, further comprising:

an idling device performing an idling operation corresponding to an idling time transmitted by said first transmitting module that is based on a resource assigned to the client,

wherein said second transmitting module device transmits the data after the idling operation is completed.

5. (CURRENTLY AMENDED) The communicating system as set forth in claim 2, further comprising:

a charging device performing a charging process for a service provider of the server,

wherein said first receiving module device receives a request from the client through the network,

wherein said charging device determines whether or not the request from the client is a request to be issued to the server,

wherein when the request from the client is the request to be issued to the server, said second transmitting module device transfers the request from the client to the server and said charging device charges the service provider.

6. (CURRENTLY AMENDED) A communicating system for relaying a communication between a server and a client, comprising:

a first receiving module capable of receiving data transmitted from the client to the server;

a first converting module capable of converting a first protocol at an application layer level of the received data into a second protocol at the application layer level, the second protocol allowing an increase of a size of a data transfer window for a transport layer protocol so that a larger amount of data can be transferred at one time than with a data transfer window whose size is not increased;

a multiplexing module capable of multiplexing data of multiple connections converted by said first converting module so that a connection with an increased window size in the transport layer protocol level can be used continuously;

a first transmitting module capable of transmitting data multiplexed by said multiplexing device to the network;

a second receiving module capable of receiving data from the network, the data obtained by:

converting the first protocol of data transmitted from the server to the client into the second protocol, and by

multiplexing data of multiple connections so that a connection with an increased window size in the transport layer protocol level can be used continuously, and the larger amount of data transmitted to the network by continuously using the second protocol;

a demultiplexing module capable of demultiplexing the received data;

a second converting module capable of converting a protocol of the demultiplexed data into the first protocol; and

a second transmitting module capable of transmitting the data converted by said second converting module to the client,

wherein a throughput of data of the client is changed corresponding to a priority of the client with respect to another client.

7. (CANCELLED)

8. (ORIGINAL) The communicating system as set forth in claim 6, further comprising:
a charging device performing a charging process for a user of the client,
wherein said receiving device receives a request to the server from the network,
wherein said charging device determines whether or not the request to the server is a request from the client, and
wherein when the request to the server is the request from the client, said transmitting device transmits the request to the server and said charging device charges the user.

9. (PREVIOUSLY PRESENTED) The computer-readable recording medium according to claim 10, said program further causing the computer to perform buffering data transmitted from the server to the client and accelerating data output from the server so as to increase a throughput assigned to a connection to the client by the server.

10. (CURRENTLY AMENDED) A computer-readable recording medium on which a program for a computer controlling a communication between a server and a client is recorded, said program causing the computer to perform:

- a first receiving receiving data from a network, the data obtained by:

- converting a first protocol at an application layer level, for data transmitted from the client to the server, into a second protocol at the application layer level, the second protocol allowing an increase of a size of a data transfer window in for a transport layer protocol so that a larger amount of data can be transferred at one time than with a data transfer window whose size is not increased, and by

- multiplexing data of multiple connections so that a connection with an increased window size in the transport layer protocol level can be used continuously and the larger amount of data is transmitted to the network by continuously using the second protocol;

- demultiplexing the received data;

- a first converting converting a protocol of the demultiplexed data into the first protocol;

- a first transmitting the data converted by said first converting to the server;

- a second receiving receiving data transmitted from the server to the client;

- a second converting converting the first protocol of the data received by the second receiving into the second protocol;

- multiplexing data of multiple connections converted by the second converting so that a connection using the increased window size in the transport layer protocol level can be used continuously and the larger amount of data can be transmitted; and

- a second transmitting transmitting data multiplexed by said multiplexing network,

- wherein a throughput of data of the client is changed corresponding to a priority of the client with respect to another client.

11. (CURRENTLY AMENDED) A computer-readable recording medium on which a program for a computer controlling a communication between a server and a client is recorded, said program causing the computer to perform:

a first receiving receiving data transmitted from the client to the server;

a first converting converting a first protocol at an application layer level of the received data into a second protocol at the application layer level, the second protocol allowing an increase of a size of a data transfer window for a transport layer so that a larger amount of data can be transferred at one time than with a data transfer window whose size is not increased;

multiplexing data of multiple connections converted by said first converting so that a connection with an increased window size in the transport layer protocol level can be used continuously;

a first transmitting transmitting data multiplexed by said multiplexing to the network;

a second receiving receiving data from the network, the data obtained by:

converting a first protocol of data transmitted from the server to the client into the second protocol, and

multiplexing data of multiple connections so that a connection with an increased window size in the transport layer protocol level can be used continuously, and the larger amount of data transmitted to the network by continuously using the second protocol;

demultiplexing the received data;

a second converting converting a protocol of the demultiplexed data into the first protocol; and

a second transmitting transmitting the second converted data to the client,

wherein a throughput of data of the client is changed corresponding to a priority of the client with respect to another client.

12. (WITHDRAWN) A communicating method, comprising:

forming a virtual tunnel having a multiplexing protocol, where a size of a data transfer window in a transport protocol sent within the multiplexing protocol is increased and a connection with the increased window size in the transport protocol can be used continuously, for hiding a network delay that takes place between a server and a client;

determining a validity of a client to use the virtual tunnel for a connection;

upon the client being validated, continuously using the virtual tunnel as a communication bypass between the server and the validated client so as to increase a throughput between the server and the client, and

upon the client not being validated, using another connection for communication.

13. (WITHDRAWN) The communicating method as set forth in claim 12, further

comprising:

charging a user of the client for a communication using the virtual tunnel.

14. (WITHDRAWN) The communicating method as set forth in claim 12, further comprising:

charging a service provider of the server for a communication using the virtual tunnel.

15. (PREVIOUSLY PRESENTED) The communicating system according to claim 16, further comprising buffer means for buffering data transmitted from the server to the client and accelerating data output from the server so as to increase a throughput assigned to a connection to the client by the server.

16. (CURRENTLY AMENDED) A communicating system for relaying a communication between a server and a client, comprising:

first receiving means for receiving data from a network, the data obtained by:

converting a first protocol at an application layer level, for data transmitted from the client to the server, into a second protocol at the application layer level, the second protocol allowing an increase of a size of a data transfer window for a transport layer protocol so that a larger amount of data can be transferred at one time than with a data transfer window whose size is not increased, and by

multiplexing data of multiple connections so that a connection with an increased window size in the transport layer protocol level can be used continuously and the larger amount of data is transmitted to the network by continuously using the second protocol;

demultiplexing means for demultiplexing the received data;

first converting means for converting a protocol of the demultiplexed data into the first protocol;

first transmitting means for transmitting the data converted by said first converting means the server;

second receiving means for receiving data transmitted from the server to the client;

second converting means for converting the first protocol of the data received by the second receiving means into the second protocol;

multiplexing means for multiplexing data of multiple connections of the second protocol converted by said second converting means so that a connection using the increased window size in the transport layer protocol level can be used continuously and the larger amount of data

can be transmitted; and

second transmitting means for transmitting the data multiplexed by said multiplexing means to the network,

wherein a throughput of data of the client is changed corresponding to a priority of the client with respect to another client.

17. (CURRENTLY AMENDED) A communicating system for relaying a communication between a server and a client, comprising:

first receiving means for receiving data transmitted from the client to the server;

first converting means for converting a first protocol at an application layer level of the received data into a second protocol at the application layer level, the second protocol allowing an increase of a size of a data transfer window for a transport layer so that a larger amount of data can be transferred at one time than with a data transfer window whose size is not increased;

multiplexing means for multiplexing data of multiple connections converted by said first converting means so that a connection with an increased window size in the transport layer protocol level can be used continuously;

first transmitting means for transmitting data multiplexed by said multiplexing means to the network;

second receiving means for receiving data from the network, the data obtained by:

converting the first protocol of data transmitted from the server to the client into the second protocol, and by

multiplexing data of multiple connections so that a connection with an increased window size in the transport layer protocol level can be used continuously, and the larger amount of data transmitted to the network by continuously using the second protocol;

demultiplexing means for demultiplexing the received data;

second converting means for converting a protocol of the demultiplexed data into the first protocol; and

second transmitting means for transmitting the data converted by said second converting means to the client,

wherein a throughput of data of the client is changed corresponding to a priority of the client with respect to another client.

18-20. (CANCELLED)

21. (CURRENTLY AMENDED) A method of relaying communication between a server and a client, comprising:

converting a first protocol in an application layer level of data transmitted from the client to the server into a second protocol in the application layer level where a size of a data transfer window in a transport protocol level can be changed, the second protocol allowing a larger amount of data to be transferred at a time; and

multiplexing data of multiple connections so that a connection with a changed window size in the transport protocol level can be used continuously,

wherein a throughput of data of the client is changed corresponding to a priority of the client with respect to another client.

22. (NEW) A method of decreasing cost of a system for relaying communication between a plurality of servers and a plurality of clients comprising:

disposing agent relay devices in a vicinity of each of the plurality of servers;

decreasing a number of mirror servers in the system;

and adjusting throughout of communication based on a priority of one of the plurality of clients with respect to another of the plurality of clients.